

## **Mites and Aphids:** **Managing two of the most persistent pests in high tunnels**

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Spider mites and aphids, two of the most persistent and damaging pests in high tunnels, continue to plague tunnel growers around the state. Both pests thrive in the warm, dry environment of a tunnel and can reproduce very rapidly under these conditions. Because of this, regular scouting and early detection is essential to prevent large outbreaks. Even with early detection, implementing several pest management strategies are often needed to keep populations under control.

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### **SPIDER MITES**

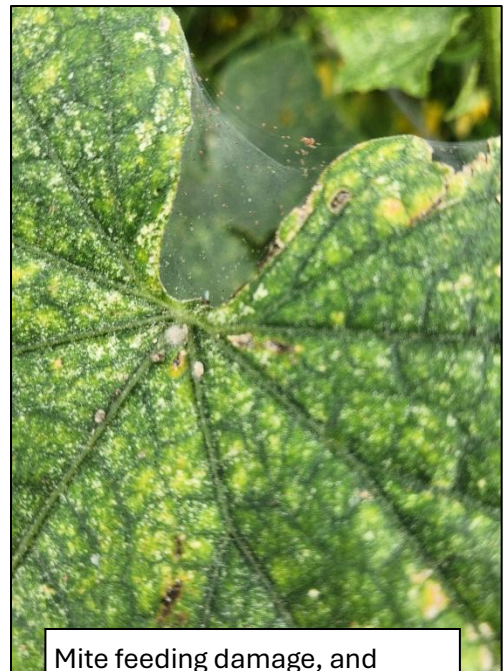
Spider mites are tiny arachnids that feed on many common high tunnel crops such as tomatoes and peppers. While there are many types of mites, the two-spotted spider mite is likely the most economically significant, capable of causing severe damage to plants very quickly. Two-spotted spider mites appear green to yellowish in color with two dark spots on either side of their body.

#### **Damage:**

Mite feeding causes yellow or white speckling on leaves, progressing to bronzing, bleaching, and defoliation under heavy infestations. The presence of fine webbing on leaves or plants is a sign of a severe population.

#### **Scouting & Management:**

To avoid large outbreaks, a tunnel should be scouted for mites at least once a week, twice if time and labor allow. When scouting, use a 10–20x hand lens and check the undersides of the leaves, as this is where mites tend to hide. While predatory mites can be an effective method for controlling small mite populations, miticides may be necessary to control a large outbreak. Regardless of the control methods used, a quick response is essential for effective control. It is important to plan ahead and be prepared to act as soon as mites are detected.



Mite feeding damage, and webbing on cucumber leaves.



Two spotted spider mites.

## APHIDS

Aphids are a persistent insect pest in high tunnels. While aphid species vary in color, size, and the type of crops they prefer to feed on, many species are generalists, feeding on a wide variety of common high tunnel crops. The warm and arid high tunnel environment creates ideal conditions for aphids and populations can double in just a few days. This allows populations to rapidly increase to economically threatening levels. While typically wingless, winged adults become common when populations reach saturation levels.

### Damage:

Mild aphid infestations may cause little damage, but heavy feeding will result in stunted plants, deformed leaves, and in extreme cases, can kill young crops. As aphids feed, they also excrete honeydew, a sweet and sticky substance that can lead to the growth of sooty mold. Aphids can also transmit plant viruses as they feed.

### Scouting & Management:

Like mites, aphids feed on the underside of leaves and stems. While larger than mites, a 10–20x hand lens will make scouting for these small insects easier. Due to the risk of rapid population growth, it is recommended to scout for aphids at least weekly, while also watching for the presence of honeydew or curled leaves. Biological controls, such as lady beetles or parasitic wasps, can be effective inside the enclosed tunnel environment. However, other control strategies, such as insecticides, will be required for larger infestations. Just like with mites, a quick response is essential to prevent large populations of aphids inside a high tunnel. It is important to plan ahead and be prepared to act as soon as aphids are detected.



Aphids on the back of a tomato leaf.



Sooty mold on pepper plants.

## **Green Bridges:**

Many high tunnel growers will begin transitioning from summer to fall or winter crops within the next couple of months. By this time of year, it is common for tunnels to have some level of pest buildup, including mites, aphids, or other pests. During this transition period, it's important to prevent creating a “green bridge,” a pest management term used to describe the movement of pests from an old crop to a new one through infested vegetation. Residual plant material left in or near the tunnel after crop removal creates a pathway, or bridge, for pests to move from the old planting to the next. To break this cycle and protect new plantings, remove all green plant material from the tunnel for at least one to two weeks before planting the new crop.

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## **Conclusion:**

High tunnels offer many benefits, including season extension and protection from damaging weather conditions. These structures, however, also create favorable environments for pests like aphids and spider mites. To prevent these potentially devastating pests from reaching damaging population levels, growers should scout their tunnels regularly and often, and be prepared to implement proactive pest management strategies quickly.